

[UV PHOTODETECTOR]

Abstract

An UV photo-detector having a GaN-based interlayer is provided. Because of the excellent insulating property of the GaN-based interlayer and an excellent Schottky contact between the GaN-based interlayer and electrodes of the device, the leakage current of the device is substantially reduced. For example, the material of the GaN-based interlayer includes $\text{Al}_x \text{In}_y \text{Ga}_{1-x-y} \text{N}$, in which $x \geq 0$, $y \geq 0$, $1 \geq x + y$. The GaN-based interlayer described above is manufactured without requiring a high temperature treatment process after the epitaxy process, and thus the process flow is simplified. Therefore, an UV photodetector having an excellent performance is obtained.